

Remarks

Claims 1-67 are pending in the present application. Claims 1-67 are rejected. Entry of this Amendment cancels claims 9, 20, 45, and 50, and adds claims 68-102.

I. Amendments to Address Objections to the Disclosure, Drawings and Abstract

Paragraphs 1-3 of the Office Action set forth various objections to the disclosure, drawings and abstract. These objections are addressed as follows:

A. Spelling of Serine is Corrected in Specification

Applicants have corrected the misspelling of "serine" as requested by the Examiner. Accordingly, Applicants respectfully request that this objection be withdrawn.

B. Spelling of Luciferase is Corrected in Drawings

Applicants submit herewith replacement sheets for Figures 29 and 30 to correct the misspelling of "luciferase" in the y-axis label of Figures 29 and 30. Accordingly, Applicants respectfully request that this objection be withdrawn.

C. Revised Abstract is Submitted

Applicants submit herewith a new "Abstract of the Disclosure" which complies with M.P.E.P. § 608.01(b) as requested by the Examiner. Accordingly, Applicants respectfully request that this objection be withdrawn.

II. Claims are Amended to Overcome 35 U.S.C. § 112, Second Paragraph, Rejections

Paragraph 4 of the Office Action sets forth rejections to claims 4, 5, 31, 32, 34, 37, and 47 under 35 U.S.C. § 112, second paragraph.

Applicants have amended the rejected claims to overcome the stated rejections. Accordingly, Applicants respectfully request that the Examiner withdraw the stated 35 U.S.C. § 112, second paragraph, rejections.

III. Claims 39 and 54 are Amended to Overcome Objections Based on Informalities

Paragraph 5 of the Office Action sets forth objections to claims 39 and 54-57.

Applicants have amended claims 39 and 54 as suggested by the Examiner. Accordingly, Applicants respectfully request that these objections be withdrawn.

IV. Provisional Obviousness-type Double Patenting Rejections

A. Provisional Rejection of Claims 1-67

Paragraph 7 of the Office Action sets forth a provisional rejection of claims 1-67 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-103 of copending U.S. Patent Application Serial No. 09/873,797¹ (the '797 application).

The '797 application has not issued and none of claims 1-103 have been allowed. Thus, Applicants do not believe that it is necessary to file a Terminal Disclaimer with this response. However, Applicants are prepared to provide a Terminal Disclaimer if it is determined to be necessary upon allowance of the relevant claims. Accordingly, Applicants respectfully request that the provisional rejection of claims 1-67 be withdrawn.

B. Provisional Rejection of Claims 59-67

Claims 59-67 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-41 of copending U.S. Patent Application Serial No. 09/873,731² (the '371 application) in view of U.S. Patent No. 5,597,797 to Clark or U.S. Patent No. 6,057,292 to Cunningham et al.

Although claims have been allowed in the '371 application, Applicants have filed a Request for Continued Examination (RCE) and a Supplemental Information Disclosure Statement on August 21, 2003 (Copy of RCE as filed is attached hereto as Appendix A), thereby obviating the need for filing a Terminal Disclaimer with this response. However, Applicants are prepared to provide a Terminal Disclaimer if it is determined to be necessary upon allowance of the relevant claims. Accordingly, Applicants respectfully request that the provisional rejection of claims 59-67 be withdrawn.

¹ Attorney Docket No. 9233-63.

² Attorney Docket No. 9233-29.

V. The Claims as Amended are Non-Obvious Over the Cited References

The Office Action includes a series of obviousness rejections in paragraphs 10,³ 11,⁴ 12⁵ and 13.⁶ The Applicants note that the rejections made in paragraphs 10, 11 and 13 do not include claim 20, which recites that the "oligomer further comprises a lipophilic moiety." The Applicants have amended the rejected independent claims 1, 28-30, 42, and 49 to include the recitations of claim 20 directed to a "lipophilic moiety," thereby obviating the obviousness rejections of paragraphs 10, 11 and 13.

Having obviated the rejections of paragraphs 10, 11 and 13, the only remaining obviousness rejections are those set forth in paragraph 12 of the Office Action. Applicants note that paragraph 12 of the Office Action does not include claims 9 or 45, which recite that "the growth hormone drug is human growth hormone." Applicants have therefore amended the rejected independent claims 1, 28-30, 42, 49 and 54 to recite a "human growth hormone drug," thereby overcoming the obviousness rejections of paragraph 12.

Based on the foregoing amendments, the Applicants have overcome, and respectfully request the withdrawal of, the stated 35 U.S.C. § 103 rejections.

VI. Claims Not Rejected are Placed in Condition for Allowance

Applicants acknowledge that dependent claims 24 and 25 and claims 7, 8, 13-15, 39-41, 46, 47, 51, 52, and 55-57 have not been rejected over the cited references. Applicants have amended the first claim in each series of dependent claims within this set to be an independent claim, thereby placing these claims in condition for allowance.

³ Claims 1-6, 9-12, 16, 18, 22, 23, 26, 27, 30-38, 42-45, 48-50, and 53 were rejected under 35 U.S.C. § 103(a) as being obvious over Clark in view of U.S. Patent No. 5,349,052 (Delgado) and WO Patent Application 97/14740 (WO 97/14740).

⁴ Claims 1-6, 9-12, 16, 18, 22, 23, 26-38, 42-45, 48-50, and 53 were rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,057,292 to Cunningham et al. (Cunningham et al.) in view of Delgado and WO 97/14740.

⁵ Claims 1-6, 16-23, 26-38, 42-44, 48, 49, 53, 54, and 58 were rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,359,030 to Ekwuribe et al. (Ekwuribe et al.) in view of Delgado and WO 97/14740.

⁶ Claims 9-12, 28, 29, 45, and 50 stand rejected under 35 U.S.C. § 103(a) as being obvious over Ekwuribe et al. in view of Delgado and WO 97/14740 as applied against claims 1-6, 16-23, 26-38, 42-44, 48, 49, 53, 54, and 58, and further in view of Harris et al. J. Macromol. Sci. C25: 325-373 (1985), Clark, or Cunningham et al.

Claims 59-67 were subject only to obviousness-type double patenting rejections. As stated above, the cited application has not issued, and therefore, the Applicants request that the Examiner withdraw the stated obviousness-type double patenting rejection.

VII. Claim Amendments to Claims 59 and 67 are Supported by the Specification

Support for amended claims 59 and 67 can be found in paragraph 376 of the published application (page 99, lines 23-32 of the specification). Therefore, no new matter is added by entry of these amendments.

VIII. New Claims 68-92 are Supported by the Specification

New claims 68-102 are added to recite various aspects of the invention relating to paragraph 183 of the published application (page 17, lines 13-21 of the specification), which states:

The oligomer may further comprise one or more lipophilic moieties as will be understood by those skilled in the art. The lipophilic moiety is preferably a saturated or unsaturated, linear or branched alkyl moiety or a saturated or unsaturated, linear or branched fatty acid moiety. When the lipophilic moiety is an alkyl moiety, it is preferably a linear, saturated or unsaturated alkyl moiety having 1 to 28 carbon atoms. More preferably, the alkyl moiety has 2 to 12 carbon atoms. When the lipophilic moiety is a fatty acid moiety, it is preferably a natural fatty acid moiety that is linear, saturated or unsaturated, having 2 to 18 carbon atoms. More preferably, the fatty acid moiety has 3 to 14 carbon atoms. Most preferably, the fatty acid moiety has at least 4, 5 or 6 carbon atoms.

Therefore, no new matter is added by the addition of these new claims.

IX. Supplemental Information Disclosure Statement

Applicants submit concurrently herewith a Supplemental Information Disclosure Statement including U.S. Patent Application Serial Nos. 09/873,731⁷; 09/367,047⁸; 10/075,097⁹; 09/873,899¹⁰; 09/873,797¹¹; 09/873,777¹²; 10/166,355¹³; 10/235,381¹⁴;

⁷ Attorney Docket No. 9233-29 (Publication No. 2003/0004304)

⁸ Attorney Docket No. 9233-29CT (Publication No. 2003/0144468)

⁹ Attorney Docket No. 9233-46 (Publication No. 2003/0050228)

¹⁰ Attorney Docket No. 9233-54 (Publication No. 2003/0027748)

¹¹ Attorney Docket No. 9233-63 (Not yet published)

¹² Attorney Docket No. 9233-64 (Publication No. 2003/0050228)

¹³ Attorney Docket No. 9233-64IP (Not yet published)

In re: Ekwuribe et al.
Serial No.: 09/873,757
Filed: June 4, 2001
Page 23 of 23

10/382,155¹⁵; 10/036,744¹⁶; 10/382,022¹⁷; 10/389,499¹⁸; 10/461,199¹⁹; 10/235,284²⁰ and
10/382,069²¹.

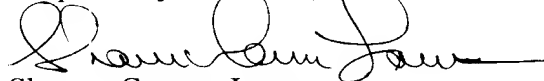
Conclusion

In view of the amendments and remarks set forth above, Applicants respectfully request withdrawal of the claim objections and claim rejections under 35 U.S.C. § 112, second paragraph and 35 U.S.C. § 103(a).

With the concerns of the Examiner addressed in full, Applicants respectfully request reconsideration of this application and the issuance of a Notice of Allowance. The Examiner is invited and encouraged to contact the undersigned directly, who may be reached at (919) 854-1400, if such contact will expedite the prosecution of the pending claims to issue.

A check in the amount of \$1,044.00 is enclosed for payment of the additional claims fee. This amount is believed to be correct. However, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 50-0220.

Respectfully submitted,



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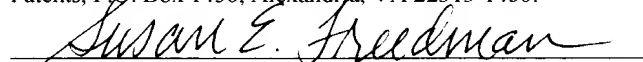
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Attachment: Abstract Sheet

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Susan E. Freedman

Date of Signature: August 25, 2003

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- ¹⁴ Attorney Docket No. 9233-68 (Publication No. 2003/0083232)
¹⁵ Attorney Docket No. 9233-68IP (Not yet published)
¹⁶ Attorney Docket No. 9233-71 (Publication No. 2003/0087808)
¹⁷ Attorney Docket No. 9233-71IP (Not yet published)
¹⁸ Attorney Docket No. 9233-71IP2 (Not yet published)
¹⁹ Attorney Docket No. 9233-90 (Not yet published)
²⁰ Attorney Docket No. 9233-96 (Not yet published)
²¹ Attorney Docket No. 9233-96IP (Not yet published)

Abstract Of The Disclosure

Mixtures of conjugates in which each conjugate in the mixture comprises a growth hormone drug coupled to an oligomer that includes a polyalkylene glycol moiety wherein the mixtures have a molecular weight distribution with a standard deviation of less than about 22 Daltons are disclosed. Methods of treating growth hormone deficiency in a subject in need of such treatment and methods of accelerating the growth rate of an animal are also disclosed. Processes for synthesizing substantially monodispersed mixtures of conjugates wherein each conjugate comprises a growth hormone drug coupled to an oligomer that comprises a polyethylene glycol moiety are further provided.